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An investigation of final year pharmacy students' moral reasoning ability, and their views on professionalism and fitness to practice panel determinations: a questionnaire study.

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Title Page

This paper has not been published elsewhere in similar form and all authors have contributed significantly to all stages of the work and this publication. The School of Pharmacy Ethics Committee at Queen's University Belfast (QUB) approved the research (Ref 022PMY2015, 26 Nov 2015). The authors have no conflicts of interest to report. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. NB The UK spelling of practise (as in 'fitness to practise') has been replaced by the US spelling (practice), as have any other UK English words.

Title

An investigation of final year pharmacy students' moral reasoning ability, and their views on professionalism and fitness to practice panel determinations: a questionnaire study.

Affiliation of all authors:

Queen's University Belfast
School of Pharmacy
97 Lisburn Road
BT9 7BL
United Kingdom

Author 1 (corresponding author)

Lezley-Anne Hanna
Senior Lecturer (Education)
Terminal degree: PhD
Email: l.hanna@qub.ac.uk
Tel: +44(0)2890972731
Fax: +44(0)2890247794

Author 2:

John Gillen
Pharmacy Graduate
Terminal degree: MPharm
Email: jgillen11@qub.ac.uk
Tel: unknown

Author 3:

Maurice Hall

Lecturer (Education)

Terminal degree: PhD

Email: m.hall@qub.ac.uk

Tel: +44(0)2890972362

Contribution to the literature

Several studies have been conducted within QUB involving undergraduate pharmacy students about professionalism but this has largely been in the context of lifestyle activities such as tobacco smoking, alcohol and social media views and use. In addition, while the validated Defining Issues Test (DIT) has been used to measure the moral reasoning ability of a small number of pharmacy students in England, in general, research involving UK pharmacy students is sparse and we are unaware of any published work in Northern Ireland. We are also unaware of any work that has investigated moral reasoning whilst also ascertaining opinions on FtP panel determinations and professionalism (and associations between these) and therefore consider that our research adds to the existing body of literature.

Abstract

Introduction/background: The aim was to establish pharmacy students' moral reasoning ability and obtain their views on professionalism and fitness to practice (FtP) determinations involving pharmacists.

Methods: Following ethical approval and piloting, final year pharmacy students at Queen's University Belfast (QUB) (n=119) were invited to participate in a questionnaire study. Section A was a validated moral reasoning assessment tool [Defining Issues Test (DIT2); 5 moral dilemmas], Section B was FtP cases and professionalism. Distribution occurred at a compulsory class. DIT2 data were scored by the University of Alabama. Descriptive statistics and non-parametric tests were used with $p < 0.05$ set *a priori* as significant.

Results: The response rate was 94.1% (112/119) and the 'DIT2 P score mean' (postconventional schema) was 25.21 ± 14.10 . Almost all [(98.2% (110/112))] fully understood the term 'professionalism' and 83.9% (94/112) considered it reasonable for a professional code to apply at all times (within university and out socializing). Differences in opinions existed depending on what the FtP case related to. Students were significantly more likely to consider a 12-month suspension 'very lenient' or 'lenient' for a pharmacist's personal use of illicit drugs compared with theft of money/cosmetics [42.0% versus 64.3%; $p=0.031$]. There were no significant differences between male and female responses/scores and no strong correlations between DIT2 scores and FtP/professionalism responses.

Discussion/conclusions: Pharmacy students appeared to understand professionalism and accepted being bound by a code. A level of discrimination between the FtP cases was evident. Moral reasoning ability was lower than expected for future healthcare professionals (see manuscript) requiring attention.

Keywords: moral reasoning; professionalism; questionnaire; students

Introduction

Having to abide by a professional code [and being subject to fitness to practice (FtP) proceedings for breaches of this] is pertinent to pharmacists in the United Kingdom (UK)^{1,2} and other countries across the globe including New Zealand, Australia and Canada.³⁻⁵ Indeed, in the most recent Pharmaceutical Society of Northern Ireland FtP Report⁶ there were 37 pharmacist FtP case files considered with issues including various convictions (alcohol, pornography and theft related), a dispensing error and drug misuse.⁶ The Great Britain (GB) pharmacy regulator documents 65 pharmacist FtP cases for the year ending July 2016.⁷

Similarly, a code of conduct and FtP became relevant concepts to United Kingdom (UK) undergraduate pharmacy students six years ago with the principles of the Code⁸ applying throughout their master of pharmacy (MPharm) degree program. This Code⁸ is mapped to the pharmacists' professional code.^{1,2} Each accredited UK school of pharmacy must have FtP procedures to deal with students who fail to abide by the Code.⁸ It is difficult to obtain UK-wide data to quantify the extent of these FtP cases; Queen's University Belfast (QUB) School of Pharmacy has logged around sixteen for issues such as fabricating feedback relating to work experience and alcohol-related issues that have occurred whilst out socializing.

While there may be a cohesive appreciation about the overall concept of professionalism, there is a lack of consensus on which skills or activities best describe what is meant by being a professional and differences in opinion exist as to how and when professionalism should be taught and assessed.⁹⁻¹¹ In QUB School of Pharmacy, professionalism is not taught directly per se, but rather, emphasis is placed on symbols (such as stipulating that professional dress be worn for various practice-based activities), exposure to role-models, and providing examples of unacceptable behavior. Moreover, when preparing undergraduate pharmacy students for

their future roles as healthcare professionals, teaching about moral reasoning is important, given that moral decision making and professionalism are key attributes for maintaining patient welfare and providing high quality care.¹² Moreover, research involving community pharmacists in the United States of America found that moral reasoning skills appear to be linked to clinical performance and social desirability.¹³ Higher moral reasoning ability has also been correlated with academic success and cognitive growth.^{14,15} Indeed, “moral responsibility”, “the ability to critically evaluate viable options” and “professionalism” are core components of the Accreditation Council for Pharmacy Education (ACPE) Accreditation Key Elements for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree Standards 2016.¹⁶ While moral reasoning is also not explicitly taught in QUB School of Pharmacy, course content encompasses ethical decision-making and dilemmas (including debates¹⁷). In Level 1, the students learn about the Code⁸ and how it maps to pharmacy professional codes^{1,2} (this is largely acquisition of knowledge about professional codes, their purpose, and consequences of breaching them). In Level 2, students participate in group debates about ethical issues that apply to both pharmaceutical industry and pharmacy practice. Example debate titles include: “This house believes that the pharmaceutical industry unethically medicalizes ordinary aspects of life by disease mongering”; “This house believes that it is unethical to conduct research about medicines on animals” and “This house believes that it is unethical for pharmacies to sell over-the-counter medicines and supplements that lack robust evidence of effectiveness”. In Level 3, students learn about ethical decision making at an individual patient level. This is done in tandem with the teaching of pharmacy law (for example, scenarios about prescriptions for controlled drugs not meeting legal requirements, coupled with having professional responsibilities for the welfare of the patient). In Level 4, students complete inter-professional ethics workshops with medical and nursing students. In these workshops, students consider ethical issues that affect multidisciplinary teams and are

exposed to different healthcare professionals' perspectives and decision-making processes. This includes the allocation of funding by the Government to various healthcare services and the decision not to prescribe certain medicines due to cost.

A robust tool for measuring moral reasoning is the Defining Issues Test (DIT).^{18,19} The validity has been assessed using seven criteria cited in over four hundred published articles¹⁹ and, in terms of reliability, the Cronbach's alpha score is between 0.70 to 0.80.¹⁹ There are two versions, with DIT2 being shorter than DIT1. DIT2 consists of five dilemmas to consider, namely: a father contemplating stealing food for his starving family; a journalist considering whether to report a damaging story about a political candidate; a school board chair wondering whether to hold a contentious open meeting; a doctor faced with giving an overdose of analgesia to a suffering patient, at her request and college students demonstrating against a foreign policy.¹⁹ The tool largely involves rating and ranking various statements that correspond to each dilemma.¹⁹ Various groups have used DIT1 and DIT2, including pharmacy, medical, dental and nursing students.^{14, 20-27}

The primary aim of this study was to ascertain the moral reasoning ability of QUB final year MPharm students and to investigate their views on professionalism, the Code⁸ and FtP panel determinations. Secondary aims were to ascertain whether there were associations between moral reasoning ability and views on professionalism and FtP panel determinations, and establish if significant differences existed for two variables (gender and where the majority of education was received prior to QUB).

Comparisons were done for male versus female responses as previous work in QUB School of Pharmacy on professionalism (mainly in the context of lifestyle activities such as tobacco

smoking, alcohol and social media views and use) revealed differences in opinions.^{28,29} Similarly, place of education prior to university was investigated based on findings from other research.^{30,31} Associations between moral reasoning scores and professionalism/FtP determination responses were investigated because of the association between academic dishonesty and ethical reasoning among pharmacy and medical students in New Zealand.³²

While the DIT has been used to measure the moral reasoning ability of some pharmacy students in England, sparse work has been conducted across the UK and none in Northern Ireland.

Research has been conducted in the UK about the teaching of ethics in pharmacy.³³⁻³⁵ Indeed, the APPLET (Advancing the Provision of Pharmacy Law and Ethics Teaching) project aimed to develop the undergraduate teaching of pharmacy law and ethics and standardize a core curriculum across the UK, ensuring pharmacy educators had awareness of current health care law, regulation, ethics and an understanding about professional attributes. APPLET also provided resources about how to teach and assess such topics, ensuring competency development of students and networking opportunities for educators.³⁶ Unfortunately, despite the importance of the subject area, the APPLET project ended around ten years ago due to funding issues. Moreover, in addition to DIT, a specific pharmacy ethics test has been developed [Professional Ethics in Pharmacy (PEP) test] and shown to be reliable and valid.³⁷

To the best of our knowledge, there is no published work investigating moral reasoning whilst also ascertaining opinions on FtP panel determinations and professionalism (and associations between these). Additionally, the results of this study should assist QUB School of Pharmacy when developing further educational material.

Methods

This work received approval from QUB School of Pharmacy Ethics Committee. All currently enrolled pharmacy students in Level 4 of the MPharm degree at QUB School of Pharmacy were invited to participate in the study (n=119). Data was collected by means of a paper-based self-completed questionnaire consisting of three sections: Section A measured moral reasoning ability via the validated DIT2 (copyright: James Rest and Darcia Narvaez, all Rights Reserved, 1998).¹⁹ Section B related to professionalism and FtP determinations. The professionalism statements were prepared with reference to the Code⁸ and previous published questionnaires relating to professionalism.^{28,29} The FtP aspect was developed by perusal of recent (last five years) FtP pharmacist cases as reported in popular UK pharmacy journals and on the pharmacy regulators' websites.^{6,7,38,39} Section C gathered non-identifiable demographic information. Section A of the questionnaire (DIT2) is available from the University of Alabama¹⁹ and all questions/statements from Sections B and C of the questionnaire are outlined in the Results section.

Section A consisted of the five DIT2 dilemmas and mainly involved students rating (5-point) and ranking (from 1-4) the importance of corresponding statements. Section B (2 questions) were closed-questions with responses measured using a 5-point scale. The professionalism/code of conduct question (containing 8 parts) asked students to select from one of the following five Likert options: Strongly Agree, Agree, Neither Agree nor Disagree, Disagree and Strongly Disagree. The FtP determination question (containing 10 parts) asked students to consider each panel determination and select from five possible options, namely: Very Lenient, Lenient, Fair, Harsh and Very Harsh. As stated above, Section C gathered demographic information (4 questions) which was largely categorical in nature. One of the demographic questions was a requirement of the DIT2 tool (is English your primary language).

To maximize response rates, the questions were prepared in closed-question format⁴⁰ and questionnaires were distributed manually (as online questionnaires had yielded poor response rates on previous occasions). A cover sheet outlined the purpose of the work, gave a predicted completion time and provided assurance that participation was voluntary.

The questionnaire was piloted with ten pharmacist postgraduate students. As Section A was the validated and copyrighted tool, this was not altered, other than to change the spelling of some words to UK English rather than US English (such as ‘favor’ to ‘favour’). As a result of the pilot, minor typographical or punctuation amendments were made. Following piloting, the students were invited to complete the questionnaire in December 2015. Each Level 4 MPharm student who participated was able to complete the questionnaire once only. It took around 25 minutes to complete and was distributed once at a class when the majority of students were anticipated to be present (i.e. there was no follow-up).

The completed questionnaires were numbered sequentially from 1 onwards. DIT2 data were entered into the DIT2 template provided by the University of Alabama and emailed to them for the purposes of scoring. Data entry for the remaining non-DIT responses was coded and entered into a customized database [IBM Statistical Package for the Social Sciences (SPSS) Statistics for Windows, Version 22.0. Armonk, NY] for statistical analysis. This data entry also used the unique questionnaire numbers. The analysis largely took the form of descriptive statistics i.e. number, frequency or percentage as appropriate. Once the DIT2 scores were returned from Alabama they were imported into SPSS and associations between these and responses to the professionalism statements and FtP determinations investigated. Appropriate statistical tests (including the Shapiro test for normality, Mann Whitney U test, and Spearman's rank

correlation coefficient to investigate correlation between DIT2 scores and the other topics) were conducted with significance set *a priori* at $p < 0.05$.

Results

Response rates and questionnaire completion

A response rate of 94.1% (112/119) was achieved. Of the 112 respondents who returned questionnaires, 109 were able to be scored by the University of Alabama for Section A (DIT2). Non-scoring of questionnaires occurs for various reasons, including a failure of the respondent to answer enough questions.¹⁹ Section B was completed in its entirety by all participants and Section C was also completed by the majority, although 4 participants did not disclose their country of education. Both the number and percentage is reported, as is significance (i.e. $p < 0.05$ values).

Demographic information (Section C)

There were 28.6% (32/112) male and 71.4% (80/112) female respondents. The mean age was 21.72 years. Additionally, 87.0% (94/108) reported receiving the majority of their education prior to university in the European Union (EU) whereas 13.0% (14/108) were non-EU-educated (mainly Malaysia). Furthermore, 87.5% (98/112) reported that English was their first language. In terms of DIT2 'education score' (1-13), all respondents were 'undertaking a professional degree' therefore scored a '10' and none of the respondents were 'citizens of the US'.

Political orientation:

- 9.4% (10/106) selected 'very liberal'
- 20.8% (22/106) selected 'somewhat liberal'
- 54.7% (58/106) selected 'neither liberal nor conservative';
- 12.3% (13/106) selected 'somewhat conservative';

- 2.8% (3/106) selected ‘very conservative’.

Moral reasoning ability (Section A)

The ‘P score mean’ (commonly referred to in the literature, reflecting the individual’s preference for post-conventional moral thinking^{18,19}) was 25.21 ± 14.10 .

Scores, by gender and education, are as follows:

- male 23.47 ± 16.23 ; female 25.87 ± 13.26
- EU-educated 25.45 ± 13.34 ; non-EU-educated 26.86 ± 18.16

No significant differences were found in scores of males versus females or in EU-educated versus non-EU-educated students.

Opinions on professionalism/Code of Conduct⁸ (Section B)

See Table 1. No statistically significant differences were found for gender or EU versus non-EU education.

Opinions on FtP determinations (Section B)

Students were asked to consider panel determination and select from five possible options, namely: Very Lenient, Lenient, Fair, Harsh, Very Harsh.

To aid understanding of the panel determinations, please note: in the UK, pharmacists must have their name listed on the appropriate ‘register’ in order to practice (work) as a pharmacist. Being ‘**struck off**’ a particular register is a normally a permanent arrangement meaning that the person cannot practice as a pharmacist in that corresponding country/nation any more.

Suspension from the register is usually a temporary measure for a specified time.

Table 2 outlines the 10 cases and corresponding student responses. In all cases, the majority of students thought the panel determinations were Very Lenient, Lenient or Fair rather than being

Harsh or Very Harsh. There were no significant differences in opinions between males and females or students' country of education. When cases with the same outcome (i.e. a 12-month suspension) were compared, the following was found:

- students were more likely to consider a 12-month suspension 'Very Lenient' or 'Lenient' for a pharmacist's personal use of illicit drugs *compared with* when a pharmacist stole money and cosmetics (42.0% versus 64.3%; $p=0.031$).
- students were also more likely to consider a 12-month suspension 'Very Lenient' or 'Lenient' for a pharmacist stealing money and cosmetics worth at least £22000 *compared with* when an employee pharmacist made false claims to the value of £17000 (75.9% versus 50.0%; $p<0.001$).

Moral reasoning score comparisons with the other statements

There were no strong relationships or positive/negative monotonic correlations between moral reasoning scores and the other responses (see Table 3).

Discussion

This study has revealed interesting findings in relation to moral reasoning ability, professionalism and perceived fairness of various UK FtP panel determinations. The DIT2 P score mean was around 25 which is perhaps an unexpected result for students who are soon to graduate from university and enter a healthcare profession, particularly since they had some prior understanding of ethics and ethical decision making. However, the score for students in this current study is similar to that reported in a study involving UK pharmacy students conducted in 2014²³, although that work related to first year students rather than final year students. Rest (1994) provided other values to enable comparisons to be made; this score is just above that reported for a typical prison inmate (23.5), whereas an average adult score is around

40 and a medical student is 50.⁴² A score of 47 has been reported for final year nursing students in Finland,²⁷ 33 for first year pharmacy students in the USA,³¹ and 33 for second year medical students in Croatia.²⁵ Latif (2000) proposed that lower scores in pharmacy than other healthcare professions may be linked to community pharmacy being marginalized and business-orientated, rather than solely healthcare-focused.⁴³ He suggested that people with a higher moral reasoning ability may be discouraged from entering or remaining in a profession where an ethical conflict exists between healthcare and business priorities.⁴³

From previous work on moral reasoning involving pharmacy students,^{23,44} it was predicted that females would score higher than males and that cultural differences may affect results.^{30,31} However, there were no significant difference in the scores in this study (although with the small number of students educated outside of the EU this comparison is not particularly meaningful). However, as the overall score is still lower than that seen in other studies involving pharmacy students as previously mentioned, consideration should be given to address this issue given the strong association between moral reasoning ability and upholding professional codes^{45,46} clinical performance^{12,13,47} and cognitive growth.^{14,15} On a positive note, this baseline data provides us with an opportunity to reflect on current teaching and make timely changes to our practice. It provides evidence that the teaching at QUB School of Pharmacy requires reevaluation, which may have been overlooked had this study not been conducted. Throughout the literature it is evident that moral reasoning can be effectively taught using small group discussions about ethical dilemmas.⁴⁸⁻⁵⁰ Moreover, it may be beneficial for students to be challenged by peers who have a higher reasoning ability.⁴⁹ Other experts have suggested that approximately 20 hours of this type of discussion per individual is required for a significant increase in moral reasoning ability to be observed.⁵⁰ In the UK, various experts have also provided guidance for teaching pharmacy law and ethics^{33-35,51} including how e-

learning can be used for education and assessment of pharmacy ethics⁵² and guidance on a 4-stage approach to decision-making (which involves gathering relevant facts, prioritizing and ascribing values, generating options and choosing an option).⁵³ It would be useful to pursue such pedagogic approaches and assess the impact of any interventions we introduce.

With regard to students' opinions on FtP determinations, the majority tended to sway towards thinking the outcome was fair or perhaps even lenient which suggests a cautious approach to decision-making. There were two notable exceptions to this trend where a substantial number of students did think the outcome harsh/very harsh: a 4-month suspension for falsifying customer feedback (33% respondents) and a 2-month suspension for covering up the loss of a single Concerta XL[®] (methylphenidate) tablet (40% respondents). Perhaps this relates to patient safety as earlier research found that pharmacy students primarily considered non-maleficence in relation to bioethical reasoning.⁵⁴ As these two FtP cases are not directly linked to patient harm, students may deem them less serious and therefore, not needing a particularly harsh penalty. Similarly, students were significantly more likely to consider a 12-month suspension lenient/very lenient for a pharmacist's personal use of illicit drugs compared with theft of money and cosmetics of substantial value. This could also be linked to patient safety and maleficence (since the ability of the pharmacist to make appropriate decisions or to work safely under the influence of illicit drugs may be impaired) or to a significant breach in trust given that pharmacists are one of few professions to have responsibility for the safe and appropriate storage of medicines. Furthermore, students were significantly more likely to consider a 12-month suspension lenient/very lenient for stealing cosmetics and money compared with an employee pharmacist making false claims about the number of 'medicine-use reviews' completed. This maybe because the former had a greater monetary value or because the pharmacist personally benefitted from the theft. It would be beneficial to conduct

a qualitative study to gain a better understanding as to the factors students consider when assessing such FtP cases and determinations. These cases could also be incorporated into teaching material to engender discussions and debate.

The understanding of professionalism and the acceptance to adhere to a code of conduct was apparent for these student respondents. Moreover, the number of FtP cases at QUB School of Pharmacy is small (around sixteen cases since 2010 with approximately 140 students per year group). Despite this, some student respondents still considered that the Code⁸ negatively affected their ability to fully appreciate the student experience and less than half agreed that the Code⁸ had a major influence on their behavior when socializing. Perhaps the Code⁸ does not play a major role for some when they are out socializing because their behavior already aligns with it and they do not need to consider this as a new set of rules. Previous research conducted at QUB on professionalism and smoking tobacco, drinking alcohol, and using social media, revealed that pharmacy students consider themselves primarily as students rather than as future healthcare professionals.^{28,29}

The study has several strengths and weaknesses. There is limited work conducted in this area involving UK pharmacy students. Additionally, to the best of our knowledge, no work relating to moral reasoning coupled with professionalism and FtP panel determinations has been undertaken. We therefore consider that it adds to the existing body of literature by providing baseline data and the concept of linking FtP cases with moral reasoning ability. It is transferrable to other healthcare disciplines as several of the FtP cases (such as stealing, personal use of drugs, and fabricating data) are not unique to pharmacy. The correlations between moral reasoning scores and FtP judgements may be of limited value in comparison to the other results, given that the students had not been taught directly about moral reasoning.

However, the students had been taught about ethics, ethical dilemmas, and ethical decision-making which we deemed similar to moral reasoning, and hence why correlations were investigated in the first instance. We endeavored to ensure our work had relevance to an international audience encompassing various healthcare disciplines and therefore selected DIT2 as the instrument of choice to measure moral reasoning. However, we acknowledge that an opportunity to use both PEP³⁷ and DIT2 instruments with the same cohort of students has been missed. There was a high response rate, thus minimizing the likelihood of non-response bias and hence enhancing the validity of the work (although the research is limited because it was only conducted within one year group at one school of pharmacy).

Future direction and research (5 key points)

- While the DIT2 tool is widely referred to in the literature for assessing moral reasoning ability, future research on ethics and pharmacy students could employ the PEP tool³⁷ (which was developed using a hypothesized theory of cognitive moral development in professional ethics)³⁷
- Our quantitative analysis has revealed significant differences in opinions depending on the FtP case. Therefore, it would be beneficial to conduct qualitative research to gain a deeper and richer understanding of the factors that students consider when assessing FtP cases and determinations. Qualitative research could be employed to further explore students' decision-making processes in relation to moral dilemmas
- It would be useful to conduct research on pharmacists and pharmacy students who have been subject to FtP proceedings. Information about pharmacist FtP cases is readily available from the UK pharmacy regulators websites^{6,7}; developing a central repository for logging details about MPharm student FtP cases could be useful

- Given the students' low DIT2 scores despite some teaching of ethics, QUB School of Pharmacy should urgently develop a comprehensive strategy for the teaching of ethics and moral reasoning. Part of this could focus on how evidence-based resources can be developed and utilized with other healthcare disciplines and schools of pharmacy. Initiating something akin to the APPLET project would seem worthwhile
- Any pedagogic tools employed to teach this subject area should be evaluated; while this current work collected valuable baseline data, it would have been enhanced if the effect of an intervention had been investigated (an evidence-based ethics teaching model)

Conclusions

It seems that moral reasoning ability is not at a level expected of students about to graduate from higher education and enter a healthcare profession. This baseline data has provided us with an opportunity to reflect on current teaching and make timely changes to our practice. However, it must also be noted that current methods for teaching future pharmacists about professionalism and the requirement to abide by a professional code do appear to be largely effective. Furthermore, a cautious approach was displayed by these future pharmacists when assessing the FtP panel determinations and significant differences in opinions between cases shows a level of discernment. This work adds to the field; future research should focus on a deeper exploration of students' decision-making processes when presented with various moral dilemmas and FtP cases and also assess the impact of introducing specific ethics teaching tools.

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Conflicts of interest: none

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Table 1 Students' responses to the professionalism/Code of Conduct⁸ statements (US English spelling is used in this table but students received the UK version).

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
a. During the MPharm ^a degree, I have been made sufficiently aware of the professional behavior that is expected of me.	93 (83.0%)	18 (16.1%)	0 (0.0%)	0 (0.0%)	1 (0.9%)
b. I fully understand what is meant by the term 'professionalism'.	73 (65.2%)	37 (33.0%)	1 (0.9%)	0 (0.0%)	1 (0.9%)
c. I fully understand what the School of Pharmacy classifies as unacceptable professional behavior.	66 (58.9%)	38 (33.9%)	5 (4.5%)	2 (1.8%)	1 (0.9%)
d. I appreciate why the Code of Conduct is a necessary part of the MPharm ^a degree.	81 (72.3%)	27 (24.1%)	2 (1.8%)	1 (0.9%)	1 (0.9%)
e. It is reasonable that the Code of Conduct applies to me at all times i.e. whether I am studying within university or out socializing with friends.	52 (46.4%)	42 (37.5%)	8 (7.1%)	7 (6.3%)	3 (2.7%)
f. It is fair that the pharmacy regulatory body is informed about certain breaches to the Code of Conduct.	60 (53.6%)	40 (35.7%)	6 (5.4%)	4 (3.6%)	2 (1.8%)
g. The Code of Conduct is a major influence on my behavior when I am out socializing with friends.	18 (16.1%)	34 (30.4%)	35 (31.3%)	17 (15.2%)	8 (7.1%)
h. Being bound by the code of conduct means that I cannot completely appreciate the student experience whilst at university.	15 (13.4%)	15 (13.4%)	21 (18.8%)	17 (15.2%)	44 (39.3%)

^a MPharm = Master of Pharmacy

Table 2 Student responses to Fitness to Practice (FtP) panel determinations involving pharmacists (the explicit sub-headings/divisions within the table were not provided to students).

Fitness to Practice (FtP) case details <i>Panel determinations</i>	Very Lenient	Lenient	Fair	Harsh	Very Harsh
Personal use of medicines/illicit drugs					
a. A pharmacist was caught stealing opiates to feed his personal addiction. When questioned initially, he admitted stealing them but lied about the quantity and who they were for. <i>Struck off register</i>	5 (4.5%)	8 (7.1%)	95 (84.8%)	2 (1.8%)	2 (1.8%)
b. A pharmacist regularly used cocaine and intended to purchase cocaine and heroin for personal use. <i>Suspended for 12 months</i>	60 (53.6%)	31 (27.7%)	16 (14.3%)	5 (4.5%)	0 (0.0%)
Potential financial gain					
c. Two pharmacists were caught selling antibiotics (prescription-only medicines) without a prescription/not in accordance with any legislation. <i>Suspended for 12 months</i>	9 (8.0%)	32 (28.6%)	67 (59.8%)	4 (3.6%)	0 (0.0%)
d. A pharmacist phoned his company head office five times pretending to be a customer reporting excellent customer service. Providing good customer service is linked to getting a financial reward (a bonus). <i>Suspended for 4 months</i>	6 (5.4%)	20 (17.9%)	49 (43.8%)	32 (28.6%)	5 (4.5%)
e. A pharmacist stole cosmetics worth >£16,000 and money of unknown value (estimated £6,000) over several years. <i>Suspended for 12 months</i>	39 (34.8%)	46 (41.1%)	26 (23.2%)	1 (0.9%)	0 (0.0%)
f. An employee pharmacist made claims for doing 638 'medicine-use reviews' for patients and claimed £17,000 over a two-year period. However, in reality, only 10 had been done. <i>Suspended for 12 months</i>	13 (11.6%)	43 (38.4%)	42 (37.5%)	14 (12.5%)	0 (0.0%)

Inappropriate professional advice					
g. A parent was concerned about diabetes-like symptoms in his 7-year old daughter. The pharmacist suggested considering iridology. The girl was later medically diagnosed as diabetic; the parent complained about the pharmacist's advice.	11	35	62	3	1
<i>Received a warning</i>	(9.8%)	(31.3%)	(55.4%)	(2.7%)	(0.9%)
Dispensing issues and attempted cover-up					
h. A pharmacist attempted to cover up the loss of a single Concerta XL [®] (methylphenidate) tablet.	3	17	47	40	5
<i>Suspended for 2 months</i>	(2.7%)	(15.2%)	(42.0%)	(35.7%)	(4.5%)
i. A pharmacist made dispensing errors (labelled with wrong patient name on one occasion and wrong strengths dispensed on two occasions), dispensed two doses of methadone without a prescription, and then attempted to delete the patient medication records from the computer.	24	53	31	4	0
<i>Suspended for 3 months</i>	(21.4%)	(47.3%)	(27.7%)	(3.6%)	(0.0%)
Confidentiality issues					
j. A locum pharmacist accessed and photocopied confidential financial documentation whilst working. He then fabricated the reason why.	11	53	38	10	0
<i>Suspended for 2 months</i>	(9.8%)	(47.3%)	(33.9%)	(8.9%)	(0.0%)

Table 3 A summary of the relationships/correlations between Moral Reasoning Score and Professionalism/Fitness to Practise (FtP) responses, determined via the Spearman's rank test.

Moral Reasoning Postconventional Schema ('P Score') (x variable) Statements/Cases responses (y variable)	Spearman correlation coefficient	Effect size interpretation ^a
Professionalism, statement a	-0.04	trivial
Professionalism, statement b	0.05	trivial
Professionalism, statement c	-0.02	trivial
Professionalism, statement d	-0.04	trivial
Professionalism, statement e	-0.07	trivial
Professionalism, statement f	-0.32	medium
Professionalism, statement g	-0.02	trivial
Professionalism, statement h	0.15	small
Fitness to Practice, case a	0.02	trivial
Fitness to Practice, case b	0.04	trivial
Fitness to Practice, case c	0.25	small
Fitness to Practice, case d	0.11	small
Fitness to Practice, case e	0.14	small
Fitness to Practice, case f	0.28	small
Fitness to Practice, case g	0.15	small
Fitness to Practice, case h	0.19	small
Fitness to Practice, case i	-0.01	trivial
Fitness to Practice, case j	0.21	small

^a Effect size interpretation: coefficients between 0.10 and 0.29 represent a small association; between 0.30 and 0.49 represent a medium association and >0.50 represent a large associate or relationship.³⁶